SEQ ID NO:1

Mouse SSG amino acid sequence

5   MGELPFLSPEGARGPHINRGSLSSLEQGSVTGTEARHSLGVLHVSYSVSNRVGPWWNIKS
CQQKWDRQILKDVSLYIESGQIMCILGSSGSGKTTLLDAISGRLRRTGTLEGEVFVNGCE
LRRDQFQDCFSYVLQSDVFLSSLTVRETLRYTAMLALCRSSADFYNKKVEAVMTELSLSH
VADQMIGSYNFGGISSGERRRVSIAAQLLQDPKVMMLDEPTTGLDCMTANQIVLLLAELA
RRDRIVIVTIHQPRSELFQHFDKIAILTYGELVFCGTPEEMLGFFNNCGYPCPEHSNPFD
10   FYMDLTSVDTQSREREIETYKRVQMLECAFKESDIYHKILENIERARYLKTLPMVPFKTK
DPPGMFGKLGVLLRRVTRNLMRNKQAVIMRLVQNLIMGLFLIFYLLRVQNNTLKGAVQDR
VGLLYQLVGATPYTGMLNAVNLFPMLRAVSDQESQDGLYHKWQMLLAYVLHVLPFSVIAT
VIFSSVCYWTLGLYPEVARFGYFSAALLAPHLIGEFLTLVLLGIVQNPNIVNSIVALLSI
SGLLIGSGFIRNIQEMPIPLKILGYFTFQKYCCEILVVNEFYGLNFTCGGSNTSMLNHPM
15   CAITQGVQFIEKTCPGATSRFTANFLILYGFIPALVILGIVIFKVRDYLISR

SEQ ID NO:2

Mouse SSG nucleotide sequence

20   GGGACAGGCCACTAGAAAATTCACTTGCATTTGCTTCCTGCTAGCCATGGGTGAGCTGCC
CTTTCTGAGTCCAGAGGGAGCCAGAGGGCCTCACATCAACAGAGGGTCTCTGAGCTCCCT
GGAGCAAGGTTCGGTCACGGGCACAGAGGCTCGGCACAGCTTAGGTGTCCTGCATGTGTC
CTACAGCGTCAGCAACCGTGTCGGGCCTTGGTGGAACATCAAATCATGCCAGCAGAAGTG
GGACAGGCAAATCCTCAAAGATGTCTCCTTGTACATCGAGAGTGGCCAGATTATGTGCAT
25   CTTAGGCAGCTCAGGCTCAGGGAAGACCACGCTGCTGGACGCCATCTCCGGGAGGCTGCG
GCGCACTGGGACCCTGGAAGGGGAGGTGTTTGTGAATGGCTGCGAGCTGCGCAGGGACCA
GTTCCAAGACTGCTTCTCCTACGTCCTGCAGAGCGACGTTTTTCTGAGCAGCCTCACTGT
GCGCGAGACGTTGCGATACACAGCGATGCTGGCCCTCTGCCGCAGCTCCGCGGACTTCTA
CAACAAGAAGGTAGAGGCAGTCATGACAGAGCTGAGCCTGAGCCACGTGGCGGACCAAAT
30   GATTGGCAGCTATAATTTTGGGGGAATTTCCAGTGGCGAGCGGCGCCGAGTTTCCATCGC
AGCCCAACTCCTTCAGGACCCCAAGGTCATGATGCTAGATGAGCCAACCACAGGACTGGA
CTGCATGACTGCAAATCAAATTGTCCTTCTCTTGGCTGAGCTGGCTCGCAGGGACCGAAT
TGTGATTGTCACCATCCACCAGCCTCGCTCTGAGCTCTTCCAACACTTCGACAAAATTGC
CATCCTGACTTACGGAGAGTTGGTGTTCTGTGGCACCCCAGAGGAGATGCTTGGCTTCTT

72

CAATAACTGTGGTTACCCCTGTCCTGAACATTCCAATCCCTTTGATTTTTACATGGACTT
GACATCAGTGGACACCCAAAGCAGAGAGCGGGAAATAGAAACGTACAAGCGAGTACAGAT
GCTGGAATGTGCCTTCAAGGAATCTGACATCTATCACAAAATTCTGGAGAACATTGAAAG
AGCACGATACCTGAAAACCTTACCCATGGTTCCTTTCAAAACAAAGATCCTCCTGGGAT
5   GTTCGGCAAGCTTGGTGTCCTGCTGAGGCGAGTAACAAGAAACTTAATGAGGAATAAGCA
GGCAGTGATTATGCGTCTCGTTCAGAATCTGATCATGGGCCTCTTCCTCATTTTCTACCT
TCTCCGCGTCCAGAACAACACGCTAAAGGGCGCTGTGCAGGACCGCGTGGGGCTGCTCTA
TCAGCTTGTGGGTGCCACCCCATACACCGGCATGCTCAATGCTGTGAATCTGTTTCCCAT
GCTGAGAGCCGTCAGCGACCAGGAGAGTCAGGATGGCCTGTATCATAAGTGGCAGATGCT
10 GCTCGCCTACGTGCTACACGTCCTCCCCTTCAGCGTCATCGCCACGGTCATTTTCAGCAG
TGTGTGTTATTGGACTCTGGGCTTGTATCCTGAAGTTGCCAGATTTGGATATTTCTCTGC
TGCTCTTTTGGCCCCTCACTTAATTGGAGAATTTCTAACACTTGTGCTGCTTGGTATAGT
CCAAAACCCTAATATTGTCAACAGTATAGTGGCTCTGCTCAGCATCTCTGGGCTGCTTAT
TGGATCTGGATTTATCAGAAACATACAAGAAATGCCCATTCCTTTAAAAATCCTGGGTTA
15 TTTTACATTCCAAAAATACTGTTGTGAGATTCTCGTGGTCAATGAGTTTTACGGCCTGAA
CTTCACTTGTGGTGGATCCAACACCTCTATGCTAAATCACCCGATGTGCGCCATCACCCA
AGGGGTCCAGTTCATCGAGAAAACCTGCCCAGGTGCTACATCCAGATTCACGGCAAACTT
CCTCATCTTATATGGGTTTATCCCAGCTCTGGTCATCCTAGGAATAGTGATTTTTAAAGT
CAGGGACTACCTGATTAGCAGATAGTTAAGATGACAGGCAGGAAAGGGTTAATGGGCAGG
20 CACGCCCACTGTGGAGCACAGAGAAGTACTGTCTTCAACCATCAGGATTCCATCTGCGAC
CCTTGTGTCTGACCCTTGTGTCTATCCGGAGCCCCAAGGGCAACGAGAACTCACAGCCCT
CTGCTATTCCAGCTTGTGGGGCAATGTGGTGCTTGGACATTGTGACTGAACTGGTCCAAT
AATGTAAATAATAATAATTCATAAACCTACAGGACATT

25

SEQ ID NO:3

Human SSG amino acid sequence

MGDLSSLTPGGSMGLQVNRGSQSSLEGAPATAPEPHSLGILHASYSVSHRVRPWWDITSC
30 RQQWTRQILKDVSLYVESGQIMCILGSSGSGKTTLLDAMSGRLGRAGTFLGEVYVNGRAL
RREQFQDCFSYVLQSDTLLSSLTVRETLHYTALLAIRRGNPGSFQKKVEAVMAELSLSHV
ADRLIGNYSLGGISTGERRRVSIAAQLLQDPKVMLFDEPTTGLDCMTANQIVVLLVELAR
RNRIVVLTIHQPRSELFQLFDKIAILSFGELIFCGTPAEMLDFFNDCGYPCPEHSNPFDF
YMDLTSVDTQSKEREIETSKRVQMIESAYKKSAICHKTLKNIERMKHLKTLPMVPFKTKD

73

SPGVFSKLGVLLRRVTRNLVRNKLAVITRLLQNLIMGLFLLFFVLRVRSNVLKGAIQDRV

GLLYQFVGATPYTGMLNAVNLFPVLRAVSDQESQDGLYQKWQMMLAYALHVLPFSVVATM

IFSSVCYWTLGLHPEVARFGYFSAALLAPHLIGEFLTLVLLGIVQNPNIVNSVVALLSIA

GVLVGSGFLRNIQEMPIPFKIISYFTFQKYCSEILVVNEFYGLNFTCGSSNVSVTTNPMC

AFTQGIQFIEKTCPGATSRFTMNFLILYSFIPALVILGIVVFKIRDHLISR

SEQ ID NO:4

Human SSG nucleotide sequence

GTCAGGTGGAGCAGGCAGGGCAGTCTGCCACGGGCTCCCCAACTGAAGCCACTCTGGGGA
GGGTCCGGCCACCAGAAAATTTGCCCAGCTTTGCTGCCTGTTGGCCATGGGTGACCTCTC
ATCTTTGACCCCCGGAGGGTCCATGGGTCTCCAAGTAAACAGAGGCTCCCAGAGCTCCCT
GGAGGGGGCTCCTGCCACCGCCCCGGAGCCTCACAGCCTGGGCATCCTCCATGCCTCCTA
CAGCGTCAGCCACCGCGTGAGGCCCTGGTGGGACATCACATCTTGCCGGCAGCAGTGGAC
CAGGCAGATCCTCAAAGATGTCTCCTTGTACGTGGAGAGCGGGCAGATCATGTGCATCCT
AGGAAGCTCAGGCTCCGGGAAAACCACGCTGCTGGACGCCATGTCCGGGAGGCTGGGGCG
CGCGGGGACCTTCCTGGGGGAGGTGTATGTGAACGGCCGGGCGCTGCGCCGGGAGCAGTT
CCAGGACTGCTTCTCCTACGTCCTGCAGAGCGACACCCTGCTGAGCAGCCTCACCGTGCG
CGAGACGCTGCACTACACCGCGCTGCTGGCCATCCGCCGCGGCAATCCCGGCTCCTTCCA
GAAGAAGGTGGAGGCCGTCATGGCAGAGCTGAGTCTGAGCCATGTGGCAGACCGACTGAT
TGGCAACTACAGCTTGGGGGGCATTTCCACGGGTGAGCGGCGCCGGGTCTCCATCGCAGC
CCAGCTGCTCCAGGATCCTAAGGTCATGCTGTTTGATGAGCCAACCACAGGCCTGGACTG
CATGACTGCTAATCAGATTGTCGTCCTCCTGGTGGAACTGGCTCGCAGGAACCGAATTGT
GGTTCTCACCATTCACCAGCCCCGTTCTGAGCTTTTTCAGCTCTTTGACAAAATTGCCAT
CCTGAGCTTCGGAGAGCTGATTTTCTGTGGCACGCCAGCGGAAATGCTTGATTTCTTCAA
TGACTGCGGTTACCCTTGTCCTGAACATTCAAACCCTTTTGACTTCTATATGGACCTGAC
GTCAGTGGATACCCAAAGCAAGGAACGGGAAATAGAAACCTCCAAGAGAGTCCAGATGAT
AGAATCTGCCTACAAGAAATCAGCAATTTGTCATAAAACTTTGAAGAATATTGAAAGAAT
GAAACACCTGAAAACGTTACCAATGGTTCCTTTCAAAACCAAAGATTCTCCTGGAGTTTT
CTCTAAACTGGGTGTTCTCCTGAGGAGAGTGACAAGAAACTTGGTGAGAAATAAGCTGGC
AGTGATTACGCGTCTCCTTCAGAATCTGATCATGGGTTTGTTCCTCCTTTTCTTCGTTCT
GCGGGTCCGAAGCAATGTGCTAAAGGGTGCTATCCAGGACCGCGTAGGTCTCCTTTACCA
GTTTGTGGGCGCCACCCCCGTACACAGGCATGCTGAACGCTGTGAATCTGTTTCCCGTGCT

GCGAGCTGTCAGCGACCAGGAGAGTCAGGACGGCCTCTACCAGAAGTGGCAGATGATGCT

GGCCTATGCACTGCACGTCCTCCCCTTCAGCGTTGTTGCCACCATGATTTTCAGCAGTGT

GTGCTACTGGACGCTGGGCTTACATCCTGAGGTTGCCCGATTTGGATATTTTTCTGCTGC

TCTCTTGGCCCCCCACTTAATTGGTGAATTTCTAACTCTTGTGCTACTTGGTATCGTCCA

5   AAATCCAAATATAGTCAACAGTGTAGTGGCTCTGCTGTCCATTGCGGGGGTGCTTGTTGG

ATCTGGATTCCTCAGAAACATACAAGAAATGCCCATTCCTTTTAAAATCATCAGTTATTT

TACATTCCAAAAATATTGCAGTGAGATTCTTGTAGTCAATGAGTTCTACGGACTGAATTT

CACTTGTGGCAGCTCAAATGTTTCTGTGACAACTAATCCAATGTGTGCCTTCACTCAAGG

AATTCAATTCATTGAGAAACCTGCCCAGGTGCAACATCTAGATTCACAATGAACTTTCT

10   GATTTTGTATTCATTTATTCCAGCTCTTGTCATCCTAGGAATAGTTGTTTTCAAAATAAG

GGATCATCTCATTAGCAGGTAGTGAAAGCCATGGCTGGGAAAATGGAAGTGAAGCTGCCG

ACTGTGCATGACTGCTCTGAACGTCTGAAATGAGAGTGCCATGTATTTCTTTCTTGACAG

GACATCTCAAGTCTTTTAACCATTAAGACTCCATTTGTGCCTCTTGGATCCAAGCAGGCC

TTGAATGCAATGGAAGTGGTTTATAGTCCCTTGCTCTTACAACTTGCAGGGACATGTGGT

15   TATTTGGAAATTGTGACTGAGCGGACCCAAGAATGTAAATAATATTCATAAACCTATGGG

SEQ ID NO:5

SSG signature sequence 1

20

AALLAPHLIGEFLTLVLL

SEQ ID NO:6

25   SSG signature sequence 2

FIPALVILGIV

SEQ ID NO:7

30   Exon 1 of hSSG

GTCAGGTGGAGCAGGCAGGGCAGTCTGCCACGGGCTCCCCAACTGAAGCCACTCTGGGGA

GGGTCCGGCCACCAGAAAATTTGCCCAGCTTTGCTGCCTGTTGGCCATGGGTGACCTCTC

ATCTTTGACCCCCGGAGGGTCCATGGGTCTCCAAGTAAACAGAGGCTCCCAGAGCTCCCT

75

GGAGGGGGCTCCTGCCACCGCCCCGGAGCCTCACAGCCTGGGCATCCTCCATGCCTCCTA

CAGCGTCAG

SEQ ID NO:8
5

Exon 2 of hSSG

CCACCGCGTGAGGCCCTGGTGGGACATCACATCTTGCCGGCAGCAGTGGACCAGGCAGAT
CCTCAAAGATGTCTCCTTGTACGTGGAGAGCGGGCAGATCATGTGCATCCTAGGAAGCTC

10   AG

SEQ ID NO:9

Exon 3 of hSSG

15   GCTCCGGGAAAACCACGCTGCTGGACGCCATGTCCGGGAGGCTGGGGCGCGCGGGGACCT
TCCTGGGGGAGGTGTATGTGAACGGCCGGGCGCTGCGCCGGGAGCAGTTCCAGGACTGCT
TCTCCTACGTCCTGCAG

SEQ ID NO:10

20   Exon 4 of hSSG

AGCGACACCCTGCTGAGCAGCCTCACCGTGCGCGAGACGCTGCACTACACCGCGCTGCTG
GCCATCCGCCGCGGCAATCCCGGCTCCTTCCAGAAGAAGGTGG

SEQ ID NO:11
25

Exon 5 of hSSG

AGGCCGTCATGGCAGAGCTGAGTCTGAGCCATGTGGCAGACCGACTGATTGGCAACTACA
GCTTGGGGGGCATTTCCACGGGTGAGCGGCGCCGGGTCTCCATCGCAGCCCAGCTGCTCC

30   AGGATCCTA

SEQ ID NO:12

Exon 6 of hSSG

AGGTCATGCTGTTTGATGAGCCAACCACAGGCCTGGACTGCATGACTGCTAATCAGATTG

TCGTCCTCCTGGTGGAACTGGCTCGCAGGAACCGAATTGTGGTTCTCACCATTCACCAGC

CCCGTTCTGAGCTTTTTCAG

5 **SEQ ID NO:13**

Exon 7 of hSSG

CTCTTTGACAAAATTGCCATCCTGAGCTTCGGAGAGCTGATTTTCTGTGGCACGCCAGCG

GAAATGCTTGATTTCTTCAATGACTGCGGTTACCCTTGTCCTGAACATTCAAACCCTTTT

10 GACTTCTATA

SEQ ID NO:14

Exon 8 of hSSG

15 TGGACCTGACGTCAGTGGATACCCAAAGCAAGGAACGGGAAATAGAAACCTCCAAGAGAG

TCCAGATGATAGAATCTGCCTACAAGAAATCAGCAATTTGTCATAAAACTTTGAAGAATA

TTGAAAGAATGAAACACCTGAAAACGTTACCAATGGTTCCTTTCAAAACCAAAGATTCTC

CTGGAGTTTTCTCTAAACTGGGTGTTCTCCTGAG

20 **SEQ ID NO:15**

Exon 9 of hSSG

GAGAGTGACAAGAAACTTGGTGAGAAATAAGCTGGCAGTGATTACGCGTCTCCTTCAGAA

TCTGATCATGGGTTTGTTCCTCCTTTTCTTCGTTCTGCGGGTCCGAAGCAATGTGCTAAA

25 GGGTGCTATCCAGGACCGCGTAGGTCTCCTTTACCAGTTTGTGGGCGCCACCCCGTACAC

AGGCATGCTGAACGCTGTGAATCTGT

SEQ ID NO:16

Exon 10 of hSSG

30

TTCCCGTGCTGCGAGCTGTCAGCGACCAGGAGAGTCAGGACGGCCTCTACCAGAAGTGGC

AGATGATGCTGGCCTATGCACTGCACGTCCTCCCCTTCAGCGTTGTTGCCACCATGATTT

TCAGCAGTGTGTGCTACTG

SEQ ID NO:17

Exon 11 of hSSG

GACGCTGGGCTTACATCCTGAGGTTGCCCGATTTGGATATTTTTCTGCTGCTCTCTTGGC
5   CCCCCACTTAATTGGTGAATTTCTAACTCTTGTGCTACTTGGTATCGTCCAAAATCCAAA
TATAGTCAACAGTGTAGTGGCTCTGCTGTCCATTGCGGGGGTGCTTGTTGGATCTGGATT
CCTCAG

SEQ ID NO:18

10   Exon 12 of hSSG

AAACATACAAGAAATGCCCATTCCTTTTAAAATCATCAGTTATTTTACATTCCAAAAATA
TTGCAGTGAGATTCTTGTAGTCAATGAGTTCTACGGACTGAATTTCACTTGTG

15   **SEQ ID NO:19**

Exon 13 of hSSG

GCAGCTCAAATGTTTCTGTGACAACTAATCCAATGTGTGCCTTCACTCAAGGAATTCAAT
TCATTGAGAAAACCTGCCCAGGTGCAACATCTAGATTCACAATGAACTTTCTGATTTTGT
20   ATTCATTTATTCCAGCTCTTGTCATCCTAGGAATAGTTGTTTTCAAAATAAGGGATCATC
TCATTAGCAGGTAGTGAAAGCCATGGCTGGGAAAATGGAAGTGAAGCTGCCGACTGTGCA
TGACTGCTCTGAACGTCTGAAATGAGAGTGCCATGTATTTCTTTCTTGACAGGACATCTC
AAGTCTTTTAACCATTAAGACTCCATTTGTGCCTCTTGGATCCAAGCAGGCCTTGAATGC
AATGGAAGTGGTTTATAGTCCCTTGCTCTTACAACTTGCAGGGACATGTGGTTATTTGGA
25   AATTGTGACTGAGCGGACCCAAGAATGTAAATAATATTCATAAACCTATGGG

78